

ABSTRACT OF THE DISCLOSURE

There are provided an ultrasonic imaging system and method which can correct a phase shift effect to image a real change in acoustic impedance in a living body.

An ultrasonic probe transmits an ultrasonic beam to an object to receive an echo. A transmit beamformer transmits a transmit signal via transmit/receive SWs to the probe in delay time matched with a transmit focal point according to the signal under the control of a control system. An ultrasonic signal returned from the object to the probe is converted to an electric signal by the probe to be transmitted via the transmit/receive SWs to a complex receive beamformer. The complex receive beamformer performs dynamic focus adjusting delay time according to reception timing. A phase shift correction part uses the output of the complex beamformer outputting beams of a real part and an imaginary part to correct phase shift due to frequency-dependent attenuation, correct phase shift in the lateral direction of the beam, or correct both. After phase shift correction, an acoustic impedance change amount operation part obtains a derivative about the space position of acoustic impedance. The signal subject to filtering processing is image displayed via a scan converter on a display part.